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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,947	04/16/2004	Stephen K. Pinto	17146-008001	1609
26161	7590	03/29/2007	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			GAMI, TEJAL	
			ART UNIT	PAPER NUMBER
			2121	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/29/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/826,947	PINTO ET AL.	
	Examiner Tejal J. Gami	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 April 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-28 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :12/18/06, 07/17/06, 05/27/05, 02/28/05.

**DETAILED ACTION**

***Information Disclosure Statement***

Applicant's admission filed May 27, 2005 has been considered. However, the statements made therein are of a general nature. No conclusion either positive or negative can be drawn from these statements.

**RULE 105 - REQUEST FOR INFORMATION**

1. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.
2. An issue of public use or on sale activity has been raised in this application. In order for the examiner to properly consider patentability of the claimed invention under 35 U.S.C. 102(b), additional information regarding this issue is required as follows: It is unclear from the admission what was known or used by others, whether there were any acts that would constitute an offer for sale, whether there were any public disclosures, or where such acts or disclosures occurred.

Applicant is reminded that failure to fully reply to this requirement for information will result in a holding of abandonment.

3. In response to this requirement, please provide answers to each of the following interrogatories eliciting factual information:
  - I) What were the specific details of the modeling system referred to in the admission?
    - a) Do you have any documentation, either hard copies or in electronic form, showing this modeling system? If yes, please provide documentation in

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response to this interrogatory. Documentation should be interpreted broadly to include, yet not be limited to: press releases, advertisements, brochures, product manuals, web pages, patents and patent applications (both U.S. and foreign), presentations, technical journals, and product specifications.

b) Do any of the parties subject to a duty of disclosure under 37 CFR 1.56 know of where such documentation, as recited above, may be found? Please state the location in response to this question.

c) Using the language of the claims, what are the specific differences between the modeling system that is mentioned in the admission and the claims?

d) Were there any other modeling systems created by applicants? If so, please provide specific details of these modeling systems, using the language of the claims, and explain how they differ from the claimed invention.

e) Were there any other modeling systems created by applicants? If so, please provide documentation of these systems or state where such documentation may be found.

II) Was the modeling system disclosed in the admission the subject of any of the following types of transactions: offered for sale, bartered or exchanged, licensed, donated or given away, or used for experimental use? Please answer the following interrogatories for each transaction.

a) Where did this transaction occur?

b) What were the details of the transaction?

c) What where the details of the system that formed the basis for this transaction?

d) When did this transaction occur?

e) Who were the parties involved in the transaction?

III) Was the modeling system of this application or of the admission publicly disclosed?

a) Do you have any documentation, either hard copies or in electronic form, showing what was publicly disclosed? If yes, please provide documentation in response to this interrogatory. Documentation should be interpreted broadly to include, yet not be limited to: press releases, advertisements, brochures, product manuals, web pages, presentations, technical journals, and product specifications.

b) Do any of the parties subject to a duty of disclosure under 37 CFR 1.56 know of where such documentation, as recited above, may be found? Please state the location in response to this question.

4. In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to develop the disclosed subject matter that describes the applicant's invention, particularly as to developing "transforming of the variables" and "the adjusting of the population of variables". For each publication, please provide a concise explanation of the reliance placed on that publication in the development of the disclosed subject matter.

5. In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to draft the claimed subject matter.

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For each publication, please provide a concise explanation of the reliance placed on that publication in distinguishing the claimed subject matter from the prior art.

6. In response to this requirement, please provide the names of any products or services that have incorporated the claimed subject matter.
7. In response to this requirement, please state the specific improvements of the subject matter in claims 1 and 7 over the disclosed prior art and indicate the specific elements in the claimed subject matter that provide those improvements. For those claims expressed as means or steps plus function, please provide the specific page and line numbers within the disclosure that describe the claimed structure and acts.
8. In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.
9. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

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10. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

11. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

This Office action has an attached requirement for information under 37 CFR 1.105. A complete reply to this Office action must include a complete reply to the attached requirement for information. The time period for reply to the attached requirement coincides with the time period for reply to this Office action.

### ***Specification***

12. Claim 2 is objected to because of the limiting phrase, "minimum false negatives or minimum false positives" in the third and fourth lines of the claim.

Applicant is reminded of § 1.75 wherein the claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a)).

Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

13. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 1-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-28 appear to be directed to an abstract idea rather than a practical application of an abstract idea which would produce a "useful, concrete, and tangible result." This claimed subject matter lacks a practical application of a judicial exception since it fails to produce a useful, concrete and tangible result.

For example, claims 1 and 6 are directed towards a "user", which may not be held to be a concrete result, and therefore non-statutory subject matter. Usually, a claimed invention is not concrete when a result cannot be assured or is not reproducible. The result must be substantially repeatable. The claims as written are directed towards subjective subject matter.

Another example, claim 2 is again directed towards the "user" and also enabling "as appropriate", which may not be held to be a concrete result, and therefore non-statutory subject matter. Usually, a claimed invention is not concrete when a result cannot be assured or is not reproducible. The result must be substantially repeatable. The claim as written is directed towards subjective subject matter.

Moreover, the claimed invention must accomplish a practical application i.e., it must produce a "useful, concrete, and tangible result."

***Claim Rejections - 35 USC § 112***

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claims 1-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

When a rejection under 35 USC § 101 is made for lacking concreteness and the invention cannot operate as intended without undue experimentation because of the lack of repeatability or predictability, the 35 USC § 101 rejection is accompanied by a lack of concreteness rejection under 35 USC § 112, first paragraph.

17. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

18. Claim 2 recites the limitation "the user interface display project goals" in Line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 2 recites the limitation "the interval" in Line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

20. Claim 4 recites the limitation "the fit" in Line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

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21. Claim 5 recites the limitation "the training" in Line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.
22. Claim 6 recites the limitation "the validated model development process" in Lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim.
23. Claim 9 recites the limitation "the validated model" in Lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim.
24. Claim 9 recites the limitation "the score" in Line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim.
25. Claim 11 recites the limitation "the training" in Line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.
26. Claim 12 recites the limitation "the interval" in Line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.
27. Claim 14 recites the limitation "the subsample" in Line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.
28. Claim 14 recites the limitation "the possible" in Line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.
29. Claim 28 recites the limitation "the final" in Line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim.
30. Claims 1 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps. See MPEP § 2172.01. Claims 1 and 6 are method claims without steps.

***Claim Rejections - 35 USC § 102***

31. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

32. Claims 1-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Lazarus et al. (U.S. Patent Number 6,430,539).

**As to independent claim 1**, Lazarus discloses a machine-base method comprising in connection with a project in which a user generates a predictive model based on historical data about a system being modeled (see Col. 4, Lines 11-16), enabling the user to validate a model process with a predictive model between at least two subsets of the historical data (see Col. 34, Lines 21-64).

**As to independent claim 6**, Lazarus discloses a machine-based method comprising in connection with a process in which a user generates a predictive model based on historical data about a system being modeled using the validated model development process (see Col. 4, Lines 11-28), enabling automatic transformations of variables of the data, automatic generation of a predictive model, and automatically generating performance measures of the model on at least two independent datasets of historical data (see Col. 4, Lines 11-28; and Col. 11, Lines 8-23).

**As to dependent claim 2**, Lazarus teaches teaches the method of claim 1 in which the user interface display project goals enabling the user to assess model project

performance (see Col. 24, Lines 21-64) wherein the project goals comprise at least one of:

cumulative lift over the interval of interest, degree of monotonicity, minimum false negatives or minimum false positives as appropriate (see Col. 24, Lines 21-64).

**As to dependent claim 3,** Lazarus teaches the method of claim 2 also including identifying that the model does not produce at least a predefined degree of lift for at least one of the validation datasets (see Col. 34, Lines 21-64; and Col. 35, Lines 6-31).

**As to dependent claim 4,** Lazarus teaches the method of claim 3 also including enabling a user to choose interactively at least one model development criterion change or transformation or interaction of variables to improve the fit of the model (see Col. 3, Lines 27-32).

**As to dependent claim 5,** Lazarus teaches the method of claim 4 also including graphically displaying and comparing measures of performance for the validation dataset and the training dataset (see Col. 4, Lines 11-28; and Col. 31, Lines 26-29).

**As to dependent claim 7,** Lazarus teaches the method of claim 6 also including generating measures of the performance of the model for the two datasets, the performance measures being generated separately percentile by percentile (see Col. 11, Line 56 to Col. 12, Line 8).

**As to dependent claim 8,** Lazarus teaches the method of claim 6 also including graphically displaying and comparing measures of performance for the two datasets (see Col. 34, Lines 21-64).

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**As to dependent claim 9,** Lazarus teaches the method of claim 6 also including persistently storing the validated model development process and the validated model for computing propensities for at least one target outcome variable, the propensities serving as indices of the score for non-historical data (see Col. 6, Lines 41-67; and Col. 35, Lines 49-55).

**As to dependent claim 10,** Lazarus teaches the method of claim 6 also including providing a user interface for assessing project goals against performance (see Col. 34, Lines 21-64).

**As to dependent claim 11,** Lazarus teaches the method of claim 6 also including providing a user interface for selecting at least one subset of the historical data in addition to the training subset (see Col. 4, Lines 11-28).

**As to dependent claim 12,** Lazarus teaches the method of claim 6 providing a user interface for displaying the performance of the model for at least two subsets of the historical data for the interval of interest (see Col. 4, Lines 11-28; and Col. 6, Lines 41-67).

**As to dependent claim 13,** Lazarus teaches the method of claim 6 enabling a user to choose interactively at least one transformation or interaction of variables to improve the model validation process (see Col. 9, Line 56 to Col. 10, Line 11; and Col. 12, Lines 9-27).

**As to dependent claim 14,** Lazarus teaches the method of claim 6 determining whether the model generalizes to the data other than the subsample, and, if so,

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applying the possible model to all of the data to generate a final model, and cross-validating the final model using random portions of the data (see Col. 11, Lines 8-23).

**As to dependent claim 15,** Lazarus teaches the method of claim 6 providing a user interface that enables the user to select at least one validation dataset and invoke a model process validation method (see Col. 34, Lines 52-64).

**As to dependent claim 16,** Lazarus teaches the method of claim 6 providing a user interface that enables the user to point and click to cause display of information about the model process validation (see Col. 34, Lines 52-64).

**As to dependent claim 17,** Lazarus teaches the method of claim 16 in which the information about the model process validation includes at least one of:

a statistical report card with a link to the statistical report chart, a cumulative lift chart with a link to the cumulative lift chart, and a non-cumulative lift chart with a link to the non-cumulative lift chart (see Col. 3, Lines 27-54; and Col. 4, Lines 11-28).

**As to dependent claim 18,** Lazarus teaches the method of claim 17 in which invocation of the link to the statistical report card causes display of the statistics of model process validation (see Col. 3, Lines 27-54; Col. 4, Lines 11-28; and Col. 35, Lines 40-48).

**As to dependent claim 19,** Lazarus teaches the method of claim 17 in which invocation of the link to the cumulative lift chart causes display of a cumulative lift chart (see Col. 34, Lines 21-64).

**As to dependent claim 20,** Lazarus teaches the method of claim 17 in which invocation of the link to the cumulative lift chart causes display of a non-cumulative lift chart (see Col. 34, Lines 21-64).

**As to dependent claim 21,** Lazarus teaches the method of claim 17 in which a user is enabled to choose interactively at least one performance criterion change or transformation or interaction of variables to improve the model validation process (see Col. 9, Line 56 to Col. 10, Line 11; and Col. 12, Lines 9-27).

**As to dependent claim 22,** Lazarus teaches the method of claim 6 also including providing a user interface that enables the user to select at least one machine automated model development process applied to the entire dataset for a validated model process (see Col. 34, Lines 21-64).

**As to dependent claim 23,** Lazarus teaches the method of claim 6 also including providing a user interface that enables the user to point and click to cause display of information about the performance of the validated model process applied to the entire set of historical data (see Col. 34, Lines 52-64).

**As to dependent claim 24,** Lazarus teaches the method of claim 23 in which the information about the model performance for two independent data subsets includes at least one of the following:

a statistical report card with a link to the statistical report chart, a cumulative lift chart with a link to the cumulative lift chart, a non-cumulative lift chart with a link to the non-cumulative lift chart (see Col. 3, Lines 27-54; and Col. 4, Lines 11-28).

**As to dependent claim 25,** Lazarus teaches the method of claim 24 in which the invocation of the link to the statistical report card causes display of the statistics of model process validation (see Col. 3, Lines 27-54; Col. 4, Lines 11-28; and Col. 35, Lines 40-48).

**As to dependent claim 26,** Lazarus teaches the method of claim 24 in which the invocation of the link to the cumulative lift chart causes display of a cumulative lift chart (see Col. 34, Lines 21-64).

**As to dependent claim 27,** Lazarus teaches the method of claim 24 in which the invocation of the link to the cumulative lift chart causes display of a non-cumulative lift chart (see Col. 34, Lines 21-64).

**As to dependent claim 28,** Lazarus teaches the method of claim 6 also including storing the final model and the model process validation results persistently (see Col. 6, Lines 41-67).

### ***Conclusion***

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cavaretta (U.S. Publication Number 2004/0111314) teaches satisfaction prediction model for consumers.

Blume et al. (U.S. Patent Number 6,839,682) teaches predictive modeling of consumer financial behavior using supervised segmentation and nearest-neighbor matching.

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34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tejal J. Gami whose telephone number is (571) 270-1035. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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